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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,681	04/13/2004	Shinobu Hirayama	HIRAYAMA3	3091
1444	7590	04/05/2006	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			ADDISU, SARA	
			ART UNIT	PAPER NUMBER
			3722	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/822,681	HIRAYAMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sara Addisu	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12/19/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/19/05 has been entered.

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: Claim 1, page 2, lines 9-10 recites "...work spindle is made varied to...". Examiner believes it should read "...work spindle is made varied to...". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- Claim 1, page 2, lines 6-8 recites (i.e. amendment to claim 1, which used to be the limitation of claim 3) “..wherein the predetermined acceleration of the slider in reciprocation is set to a top acceleration in reciprocation permitted to the slider..” while on page 1, lines 15-16 of claim 1 recites “..wherein an acceleration of the slider in reciprocation is set to a predetermined desired acceleration. It is not clear how the predetermined acceleration of the slider could be set at both a “predetermined desired acceleration” and “top acceleration”.
  - Furthermore, further review of the Specification (Instant Application, page 10, lines 17-21) does not clarify what defines a “top acceleration”. The specification teaches the acceleration of the slider in reciprocation is kept as constant as possible at an acceleration that is preselected to the top acceleration or any acceleration as high as possible below the top acceleration. For the purpose of this Office Action, reading the claim broadly, Examiner is interpreting the desired acceleration as being at a high acceleration. Examiner is defining top acceleration to mean “high acceleration”.

- As mentioned above, Claim 1, page 2, lines 6-8 recites “..wherein the predetermined acceleration of the slider in reciprocation is set to a top acceleration in reciprocation permitted to the slider..”. It is also not clear from the way the sentence is written (i.e. regarding the reciprocation) what the limitation is.

2. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites

the broad recitation “..wherein an acceleration of the slider in reciprocation is set to a predetermined desired acceleration” (page 1, lines 15-16 of claim 1), and the claim also recites “ wherein the predetermined acceleration of the slider in reciprocation is set to a top acceleration (Claim 1, page 2, lines 6-8) which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 5-11, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-126907.

2002-126907 teaches using a numerical control (NC) processor comprising a work spindle to hold a workpiece (9) thereon, the work spindle being supported for rotation on a headstock (5), a Z-axis table allowing the work spindle to move in

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reciprocation in a Z-axis direction, an X-axis table arranged in opposition to the work spindle and moving in reciprocation in an X-axis direction ( X-axis direction being perpendicular to the Z-axis direction), a turner base (11) fastened to the X-axis table, a slider (12) allowed to move back and forth over the turner base in a Y-axis direction (Y-axis direction being parallel with the Z-axis direction), a cutting tool (15) mounted to the slider (12), and a driving means (comprising a linear-motor coil 19) to force the slider in reciprocation the Y-axis direction (2002-126907, figures 4-6). JP 2002-126907 (Paragraph [0006], lines 6-12 of the translation of JP 2002-126907) also teaches that the angle of rotation of main shaft varies every moment and is continuously detected by rotary encoder of a high-resolution, the actual amount which changes the cutting tool 15 by reciprocating motion (i.e. n times reciprocation) of slider 12 every moment is continuously detected by the pulse coder provided. This corresponds to the Instant Application, page 10, lines 15-21 and page 38, lines 9-10 which teaches pulse command in terms of varying angle of rotation which is turned with a rotational frequency regulated to keep the acceleration of the slider in reciprocation as constant as possible at an acceleration that is pre-selected to the top acceleration or any acceleration as high as possible below the top acceleration therefore JP 2002-126907 teaches acceleration of the slider in reciprocation that is set to a predetermined desired acceleration, additionally the rotating velocity of the work spindle is varied in terms of the predetermined acceleration, and movements of the slider in the Y-axis direction and the X-axis table in the X-axis direction are made synchronization with the varied rotating velocity of the work spindle (JP 2002-126907 teaches the pulse coder mentioned

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above also detecting the position of the x-axis table and the NC of servomotor for the x-axis table is actuated, Paragraph [0006], lines 17-20 of the translation of JP 2002-126907) whereby the cutting tool generates a desired curved surface (e.g. plastic-lens process therefore toric surface, Paragraph [0022], lines 1-6 of the translation of JP 2002-126907) on a surface of the workpiece lying perpendicular to the Y-axis direction of the cutting tool. Regarding claims 2, 11 and 12, JP 2002-126907 teaches a drive unit comprising a linear-motor coil (19) fixed to slide block (16) and a linear-motor magnet plate (20) built into slider (18) and the linear scale (21) and linear scale detector which detects the movement amount of slider (18) (22)(Page 4, last paragraph of the translation of JP 2002-126907).

### ***Response to Arguments***

4. Applicant's arguments, see page 7, third paragraph and page 8, lines 17-19, filed 12/19/05, with respect to claim 3, have been fully considered but they are not persuasive.

5. Regarding claim 3 of Applicant's argument (page 7, third paragraph and page 8, lines 17-19), "...the processor disclosed in JP '907 is not controlled by its acceleration criterion to force the slider in reciprocation manner, but is controlled by the rpm of the spindle, which is fixed at a predetermined value", attention is called to Paragraph [0030], lines 24-26 of the translation of JP 2002-126907 which teaches, "...it



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can let a slider able to respond to the high-speed reciprocable movement of high acceleration..". Further on, lines 29-32 recites "And since a slide and a X-axis table can be reciprocated at high speed, it can gather the rotating speed of the main shaft and can process a workpiece in a short time".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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